WHAT IS CLAIMED IS:

1. A biosensor for use in determining a concentration of a component in an aqueous liquid sample, the biosensor comprising:

(a) an electrochemical cell, the electrochemical cell comprising a first electrically resistive substrate having a first thin layer of a first electrically conductive material on a first face, a second electrically resistive substrate having a second thin layer of a second electrically conductive material on a second face, the substrates being disposed with the first electrically conductive material facing the second electrically conductive material and being separated by a sheet comprising an aperture, the wall of which aperture cooperates with the electrically conductive materials to define a cell wall, and wherein the aperture defines a working electrode area in the cell, the cell further comprising a sample introduction aperture whereby the aqueous liquid sample may be introduced into the cell; and

(b) a measuring circuit.

2. The biosensor of claim 1, wherein the electrochemical cell further comprises a socket region having a first contact area in electrical communication with the first thin layer of the first electrically conductive material and a second contact area in electrical communication with the second thin layer of the second electrically conductive material, whereby the electrochemical cell may be electrically connected with the measuring circuit.

3. The biosensor of claim 1, wherein the measuring circuit comprises a tongue plug.

4. The biosensor of claim 1, wherein at least one of the first electrically conductive material and the second electrically conductive material comprises a metal.

5. The biosensor of claim 4, wherein the metal comprises a sputter coated metal.

6. The biosensor of claim 1, wherein the aqueous liquid sample comprises blood.

7. The biosensor of claim 1, wherein the component comprises glucose.

8. The biosensor of claim 1, wherein the measuring circuit comprises an automated instrument for detecting an electrical signal from the electrochemical cell

and relating the electrical signal to the concentration of the component in the aqueous liquid sample.

9. The biosensor of claim 1, wherein the electrochemical cell comprises a substantially flat strip having a thickness, the strip having at least two lateral edges, and wherein the sample introduction aperture comprises a notch through the entire thickness of the strip in at least one of the lateral edges thereof.

10. A biosensor for use in determining a concentration of a component in an aqueous liquid sample, the biosensor comprising:

(a) a thin layer electrochemical cell, the cell comprising:

(i) an electrically resistive sheet comprising an aperture wherein the aperture defines a working electrode area in the cell;

(ii) a first electrode layer covering the aperture on a first side of the sheet;

(iii) a second electrode layer covering the aperture on a second side of the sheet; and

(iv) a passage for admission into the aperture of the aqueous liquid sample; and

(b) a measuring circuit.

11. The biosensor of claim 10, wherein the electrochemical cell further comprises a socket region having a first contact area in electrical communication with the first electrode layer and a second contact area in electrical communication with the second electrode layer, whereby the electrochemical cell may be electrically connected with the measuring circuit.

12. The biosensor of claim 10, wherein the measuring circuit comprises a tongue plug.

13. The biosensor of claim 10, wherein the aqueous liquid sample comprises blood.

14. The biosensor of claim 10, wherein the component comprises glucose.

15. The biosensor of claim 10, wherein the measuring circuit comprises an automated instrument for detecting an electrical signal from the electrochemical cell and relating the electrical signal to the concentration of the component in the aqueous liquid sample.

16. The biosensor of claim 10, wherein the cell comprises a substantially flat strip having a thickness, the strip having at least two lateral edges, and wherein the passage for admission into the aperture comprises a notch through the entire thickness of the strip in at least one of the lateral edges thereof.

17. An apparatus for determining a concentration of a reduced form or an oxidized form of a redox species in a liquid sample, the apparatus comprising:

(a) a hollow electrochemical cell having a working electrode and a counter or counter/reference electrode wherein the working electrode is spaced from the counter or counter/reference electrode by less than 500 μm;

(b) means for applying an electric potential difference between the electrodes; and

(c) means for electrochemically determining the concentration of the reduced form or the oxidized form of the redox species in the liquid sample.

18. The apparatus of claim 17, wherein means for electrochemically determining the concentration of the reduced form or the oxidized form of the redox species comprises:

(i) means for determining a change in current with time after application of the electric potential difference and prior to achievement of a steady state current;

(ii) means for estimating a magnitude of the steady state current; and

(iii) means for obtaining from the change in current with time and the magnitude of the steady state current, a value indicative of the concentration of the reduced form or the oxidized form of the redox species.

19. The apparatus of claim 17, wherein the cell further comprises a socket region having a first contact area in electrical communication with the working electrode and a second contact area in electrical communication with the counter or counter/reference electrode, whereby the cell may be electrically connected with at least one of the means for applying an electric potential difference between the electrodes and the means for electrochemically determining the concentration of the reduced form or the oxidized form of the redox species in the liquid sample.

20. The apparatus of claim 17, wherein at least one of the means for applying an electric potential difference between the electrodes and the means for electrochemically determining the concentration of the reduced form or the oxidized form of the redox species in the liquid sample comprises a tongue plug.

21. The apparatus of claim 17, wherein at least one of the means for applying an electric potential difference between the electrodes and the means for electrochemically determining the concentration of the reduced form or the oxidized form of the redox species in the liquid sample comprises an automated instrument for detecting an electrical signal from the electrochemical cell and relating the electrical signal to the concentration of the reduced form or the oxidized form of the redox species in the liquid sample.

22. The apparatus of claim 17, wherein the cell comprises a substantially flat strip having a thickness, the strip having at least two lateral edges, and wherein a notch extends through a wall of the electrochemical cell and through the entire thickness of the strip in at least one of the lateral edges thereof, whereby the liquid sample may be introduced into the cell.

23. The apparatus of claim 17, wherein the liquid sample comprises blood.

24. The apparatus of claim 17, wherein the redox species comprises glucose.

25. A method for determining a concentration of a reduced form or an oxidized form of a redox species in a liquid sample, the method comprising:

(a) providing a hollow electrochemical cell having a working electrode and a counter or counter/reference electrode wherein the working electrode is spaced from the counter or counter/reference electrode by less than 500 μm;

(b) applying an electric potential difference between the electrodes; and

(c) electrochemically determining the concentration of the reduced form or the oxidized form of the redox species in the liquid sample.

26. The method of claim 25, wherein step (c) comprises:

(i) determining a change in current with time after application of the electric potential difference and prior to achievement of a steady state current;

(ii) estimating a magnitude of the steady state current; and

(iii) obtaining from the change in current with time and the magnitude of the steady state current, a value indicative of the concentration of the reduced form or the oxidized form of the redox species.

27. The method of claim 25, wherein the cell further comprises a socket region having a first contact area in electrical communication with the working electrode and a second contact area in electrical communication with the counter or counter/reference electrode.

28. The method of claim 25, wherein step (b) further comprises the step of:

(i) providing an automated instrument for applying an electric potential difference between the electrodes.

29. The method of claim 25, wherein step (c) comprises the steps of:

(i) providing an automated instrument for detecting an electrical signal from the electrochemical cell; and

(ii) relating the electrical signal to the concentration of the reduced form or the oxidized form of the redox species in the liquid sample.

30. The method of claim 25, wherein the cell comprises a substantially flat strip having a thickness, the strip having at least two lateral edges, and wherein a notch extends through a wall of the electrochemical cell and through the entire thickness of the strip in at least one of the lateral edges thereof, whereby the liquid sample may be introduced into the cell.

31. The method of claim 25, wherein the liquid sample comprises blood.

32. The method of claim 25, wherein the redox species comprises glucose.